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GB 2239790 A GB 2125278 A

(58) Field of Search

UK CL (Edition K ) A4G , E2A ACSR ACSR  
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## (54) Key ring assembly

(57) A key ring assembly comprises a key ring holder (10), a key ring connected to the holder (10) by a connecting rod (21), and a control bolt (30) controlled to move a sliding element (31) permitting the connecting rod (21) to be connected to or removed from the holder (10). The holder (10) has an annular track (45) formed in a recessed bottom chamber (12) around a key ring retainer bolt (43), and a passage hole (34) through which the expanded round head of connecting rod (21) is inserted into or removed from the track (45) permitting the key ring to be connected to or detached from the holder (10), the sliding element (31) being forced by a spring (33) to block the passage hole (34) and moved by the bolt (30) to open the passage hole (34).

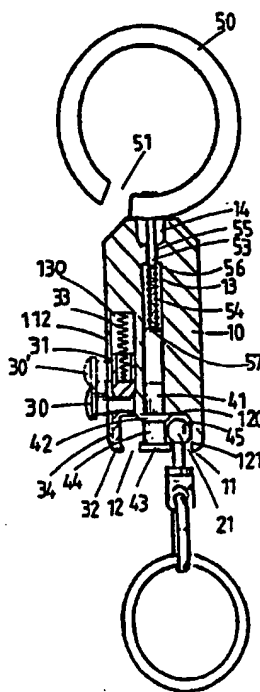


FIG. 3

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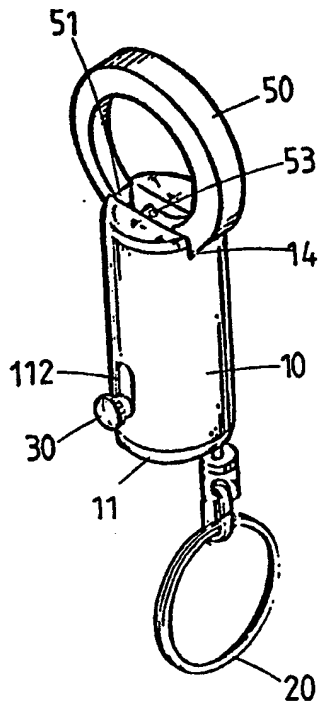


FIG. 1

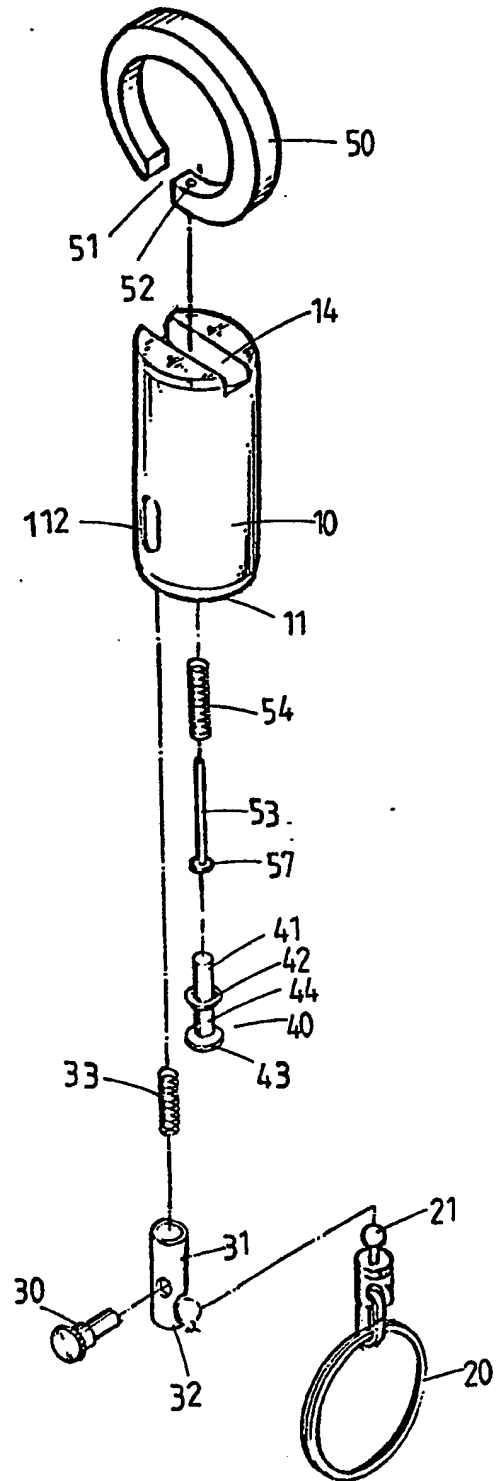


FIG. 2

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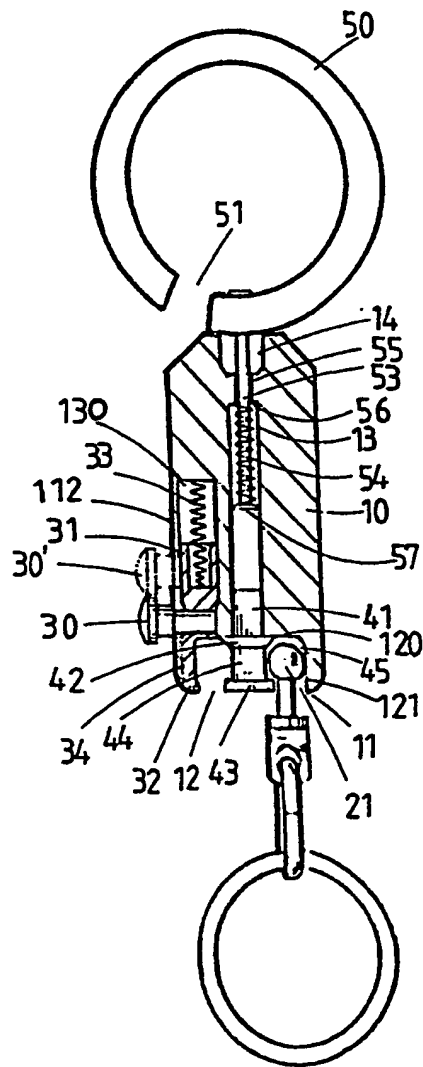


FIG. 3

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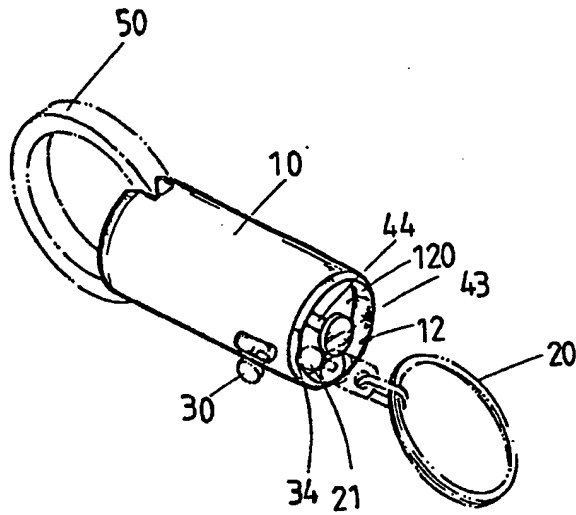


FIG. 4

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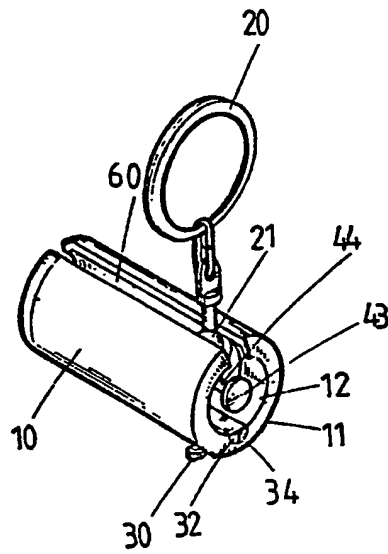


FIG. 5

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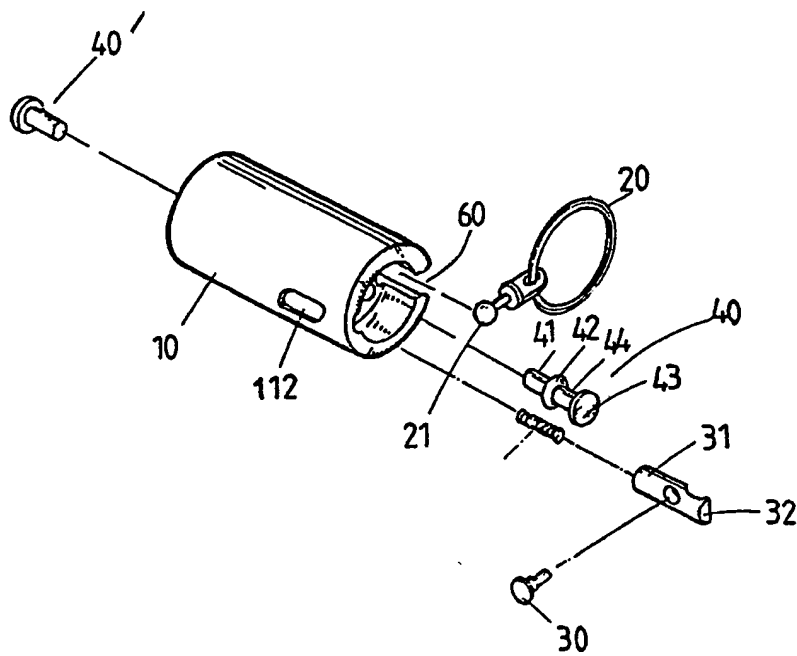


FIG.6

KEY RING ASSEMBLY WITH END-MATCHED KEY RING

The present invention relates to key rings, and more particularly the present invention relates to a key ring assembly which includes a ring detachably connected to an elongated holder thereof at one end thereof by a connector to hold a bunch of keys.

In keeping a set of keys, a key ring or like means may be used. Conventionally, a key ring is simply made in the shape of a loop having a gap through which keys can be hung. Recently, a variety of key ring holders are known and used to hold a key ring by a connecting rod. These known structures of key ring holders are commonly comprised of a circular casing having an annular track around the peripheral wall thereof and a passage way controlled by a spring supported control bolt for passing the expanded round head of a connecting rod in connecting a key ring to the circular casing or disconnecting it therefrom. Because the annular track is formed around the peripheral wall of the casing, less modification can be made on the shape of the casing.

The present invention has been accomplished under the aforesaid circumstances. According to one aspect of the present invention to provide a key ring

assembly which comprises a key ring holder having an annular track formed in a bottom chamber around a key ring retainer bolt for connecting a key ring by a connecting rod. By means of this end-matched arrangement, the key ring holder can be made in any of a variety of shapes. According to another aspect of the present invention, a sliding element is supported by a spring and controlled by a control bolt to change the space of the bottom chamber permitting the connecting rod to be retained in the annular track or disconnected from the key ring holder.

The present invention will now be described by way of example with reference to the annexed drawings, in which:

Fig. 1 is an elevational view of a key ring assembly embodying the present invention;

Fig. 2 is an exploded view of the embodiment of Fig. 1;

Fig. 3 is a cross section of the embodiment of Fig. 1 showing that the hook has been lifted;

Fig. 4 is an obliquely bottom view of the embodiment of Fig. 1;

Fig. 5 is an elevational view of an alternate form of the present invention; and



Fig. 6 is an exploded view of the alternate form of Fig. 5..

Referring to Figs. 1 and 2, therein illustrated is the first embodiment of the key ring assembly of the present invention, which is generally  
5 comprised of a key ring holder 10, a key ring 20, a control bolt 30, a key ring retainer bolt 40, and a hook 50.

Referring to Fig. 3 and seeing Figs. 1 and 2  
10 again, the key ring holder 10 has a recessed chamber 12 on the bottom edge 11 thereof, an elongated center hole 13 through the central axis thereof in communication with the recessed hole 12, into which the key ring  
15 retainer bolt 40 is inserted, an elongated eccentric hole 130 vertically extended upwards from the circular, recessed chamber 12, and a sliding hole 112 on the peripheral outside surface thereof in communication with the elongated eccentric hole 130. The key ring  
20 retainer bolt 40 comprises a rod body 41 having an expanded round head 43 at one end, a collar 42 spaced from the expanded round head 43, and a neck portion 44 defined between the expanded round head 43 and the collar 42. Therefore, an annular track 45 is formed  
25 40 within the peripheral wall 121 of the recessed

chamber 12. The key ring 20 is fastened with a round head connecting rod 21 (which has an expanded spherical head). By inserting the round head connecting rod 21 into the annular track 45, the key ring 20 is movably connected to the key ring holder 10. The control bolt 30 is inserted through the sliding hole 112 into a hole on a cylindrical sliding element 31, which is inserted in the eccentric hole 130 and supported on a spring 33. The cylindrical sliding element 31 has notched bottom end formed into a tongue 32. Sliding the control bolt 30 in the sliding hole 112 causes the cylindrical sliding element 31 to move back and forth in the eccentric hole 130. When the cylindrical sliding element 31 has been squeezed against the spring 33, a passage hole 34 is formed in the recessed chamber 12 for inserting the round head connecting rod 21 into the annular track 45 or removing it therefrom.

In the aforesaid embodiment, the key ring holder 10 has an elongated groove 14 transversely disposed through the top edge thereof and connected to the central hole 13 through a narrow hole 55. The hook 50 is made in the shape of a broken ring having a gap 51 defined between the two opposite ends thereof, and being fastened to the elongated groove 14 by a pull

rod 53 and a spring 54. The hook 50 has a pin hole 52 on either end thereof, into which the pull rod 53 is fastened. The pull rod 53 has an expanded head 57 disposed inside the center hole 13. The spring 54 is  
5 sleeved on the pull rod 53 and retained between the expanded head 57 of the pull rod 53 and a shoulder portion 56 around the narrow hole 55 at the bottom. Therefore, the spring 54 and the pull rod 53 are retained inside the key ring holder 10 to hold the hook  
10 50 in place. By lifting the hook 50 and rotating it through a certain angle, the gap 51 is disposed to the outside, and therefore the hook 50 can be hooked on a suspension object.

The main feature of the aforesaid first  
15 embodiment of the present invention is the formation of the annular track 45 in the recessed chamber 12 around the neck portion 44 of the key ring retainer bolt 40. Simply by moving the control bolt 30 to the dotted line position 30' (see Fig. 3), the passage hole 34 is opened  
20 for passing the round head connecting rod 21. Because the annular track 45 is formed on the key ring holder 10 at one end, the shape of the key ring holder 10 may be made in any of a variety of shapes. For example, the key ring holder 10 can be made in the shape  
25 of a magic toy block, a toy animal, etc. Another

advantage of this end matched key ring assembly is that the key ring 20 can be conveniently connected to the key ring holder 10 or detached therefrom.

Referring to Figs. 5 and 6, there in  
5 illustrated is an alternate form of the present invention, wherein like numbers designate like parts. In this alternate form, the key ring holder 10 has two recessed chambers 12 on the two opposite end edges thereof. Two key ring retainer bolts 40,40' are  
10 respectively fastened in the recessed chambers 12. A sliding groove 60 is longitudinally formed on the peripheral wall of the key ring holder 10 and connected between the two recessed chambers 12, into which the round head connecting rod 21 is inserted to hold a key  
15 ring 20.

It is obvious to those skilled in the art that various modifications can be made without departing from the basic teaching of the invention. Recognizing that various modifications are apparent the  
20 scope herein shall be deemed as defined in the claims set hereinafter.

What is claimed is:

1.           A key ring assembly comprising a key ring holder, a first key ring retainer bolt fastened to said key ring holder at one end, a key ring connected to said  
5   first key ring retainer bolt by a round head connecting rod, and a control bolt controlled to move a sliding element permitting said round head connecting rod to be connected to or released from said key ring retainer bolt, and characterized in that said key ring holder  
10   comprises a first annular track in a first recessed chamber around said first key ring retainer bolt, and a passage hole for inserting the round head of said round head connecting rod into said first annular track or removing it therefrom, said sliding element being to  
15   block said passage hole and controlled to open it by said control bolt.

2.           The key ring assembly according to claim 1, wherein said key ring holder has a hook at an opposite end, by which the key ring assembly is hooked on a  
20   supporting object.

3.           The key ring assembly according to claim 1, wherein said key ring retainer bolt comprises a rod body tightly fitted into a center hole on said key ring

holder, said rod body having an expanded round head at one end extended into said first recessed chamber, a collar spaced from the expanded round head thereof, and a neck portion between the expanded round head and the collar thereof around which said first annular track is formed.

4. The key ring assembly according to claim 1, wherein said control bolt is inserted through a sliding hole on said key ring holder into a hole on said sliding element and controlled to move said sliding element up and down; said sliding element is inserted in an eccentric hole on said key ring holder and supported by a spring to block said passage hole by a tongue thereof.

5. The key ring assembly according to claim 2, wherein said hook is made in the shape of a broken ring having a connecting end secured to a groove on said key ring holder by a pull rod and a compression spring, and a free end spaced from said connecting end by a gap through which the hook is hooked on a supporting object.

6. The key ring assembly according to claim 5, wherein said pull rod is inserted through a narrow hole

on said groove and an expanded head thereof spaced from  
a shoulder portion around said narrow hole; said  
compression spring is sleeved on said pull rod and  
retained between the expanded head of said pull rod and  
5 said shoulder portion.

7. The key ring assembly according to claim 1,  
wherein said key ring holder further comprises a  
second annular track in a second recessed chamber around  
a second key ring retainer bolt at an opposite end  
10 thereof.

8. The key ring assembly according to claim 7,  
wherein said key ring holder comprises an elongated  
groove on a peripheral wall thereof connected between  
said first annular track and said second annular track.

9. A key ring assembly comprising:

a body having a recess formed in one end; and

a key ring attached to an insertion member, in  
which assembly the body is provided with a projection  
5 which projects into the recess, so as to define an  
annular or other continuous passage around the  
projection and within the recess, in which passage the  
insertion member may be retained, and in which a  
portion of the passage may be enlarged, which  
10 enlargement takes place through operation of a slide  
element, to permit or prohibit displacement of the  
insertion member into or out of the annular passage.

10. A connector assembly comprising:

a body having at one end region a wall which  
15 defines a recess opening at the one end, the body  
having a projection projecting into the recess so as to  
make the recess an annular recess or other continuous  
recess;

at least one connection element having a  
20 connecting rod terminating in an enlarged head of such  
a magnitude that the head, when located in the annular  
or other recess, is not normally free to escape through  
the gap between the projection and the wall;

wherein a portion of the wall adjacent the recess  
25 is movable relative the remainder of the wall, towards  
that end of the body opposite to the one end, so as to  
increase the magnitude of the gap and to allow the  
enlarged head of the connection element to escape.

11. A key ring assembly substantially as  
30 described herein with reference to, and as shown in,  
Figures 1 to 4 or 5 and 6 of the accompanying drawings.



**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

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**Application number**

GB 9213405.5

**Relevant Technical fields**

(i) UK Cl (Edition K ) A4G E2A (ACSG ACSR)

(ii) Int Cl (Edition 5 ) A44B 15/00 A45C 11/32  
A47G 29/10

**Databases (see over)**

(i) UK Patent Office

(ii)

**Search Examiner**

G NICHOLLS

**Date of Search**

28 AUGUST 1992

**Documents considered relevant following a search in respect of claims**

1-10

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
A	GB 2239790 A (HUANG)	
A	GB 2125278 A (WOLTER)	

SF2(p)

HD - doc99\fil000220

Category	Identity of document and relevant passages - 12 -	Relevant claim(s)

#### Categories of documents

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